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238 Arsenic speciation, and arsenic and phosphate distribution in arsenic hyperaccumulator *Pteris vittata* L. and non-hyperaccumulator *Pteris ensiformis* L.
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257 Characterizing the risk assessment of heavy metals and sampling uncertainty analysis in paddy field by geostatistics and GIS
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265 Persistent organic pollutants and sedimentary organic matter properties: A case study in the Kishon River, Israel
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275 Ozone sensitivity of currant tomato (*Lycopersicon pimpinellifolium*), a potential bioindicator species
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283 Ecological impact assessment of metallurgic effluents using in situ biomarker assays
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Variable hydrology influences heavy metal speciation and mobility, and the formation of neutralization zones, in a Pb–Zn mine tailing.

321 Antimony mobility in Japanese agricultural soils and the factors affecting antimony sorption behavior
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327 Polychlorinated biphenyls (PCBs) in soils of the Moscow region: Concentrations and small-scale distribution along an urban–rural transect
W. Wilcke, M. Krauss, G. Safronov, A.D. Fokin, M. Kaupenjohann

PCBs are accumulated on aggregate surfaces where soil biological activity is particularly high.

336 Trace metals in sediments of two estuarine lagoons from Puerto Rico
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343 Multigenerational cadmium acclimation and biokinetics in *Daphnia magna*
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353 Effect of chromium on the fatty acid composition of two strains of *Euglena gracilis*
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359 Remobilization of metals from slag and polluted sediments (Case Study: The canal of the Deûle River, northern France)
N. Vdović, G. Billon, C. Gabelle, J.-L. Potdevin

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370 Relation between PAH and black carbon contents in size fractions of Norwegian harbor sediments
A.M.P. Oen, G. Cornelissen, G.D. Breedveld

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381 High average daily intake of PCDD/Fs and serum levels in residents living near a deserted factory producing pentachlorophenol (PCP) in Taiwan: Influence of contaminated fish consumption
C.C. Lee, W.T. Lin, P.C. Liao, H.J. Su, H.L. Chen

Inhabitants living near a deserted PCP factory are exposed to high PCDD/F levels.

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Invited papers

387 Woody biomass phytoremediation of contaminated brownfield land

C.J. French, N.M. Dickinson, P.D. Putwain

Field trials show short-rotation coppice provides effective risk management and remediation solutions to hotspots of residual metal and As contamination of brownfield land.

396 *Eisenia fetida* increased removal of polycyclic aromatic hydrocarbons from soil
S.M. Contreras-Ramos, D. Álvarez-Bernal, L. Dendooven

Addition of earthworms, Eisenia fetida, accelara removal of polycyclic aromatic hydrocarbons from soil.

402 Identifying primary stressors impacting macroinvertebrates in the Salinas River (California, USA): Relative effects of pesticides and suspended particles
B.S. Anderson, B.M. Phillips, J.W. Hunt, V. Connor, N. Richard, R.S. Tjeerdema

Pesticides are the primary stressor impacting macroinvertebrates in sections of the lower Salinas River.

409 Growth of the damselfly *Ischnura heterosticta* is better in saline water than freshwater
B.J. Kefford, L. Zalizniak, D. Nugegoda

This species while typically found in freshwaters does better in saline waters.

Regular papers

420 Effects of phosphorus fertilization on the availability and uptake of uranium and nutrients by plants grown on soil derived from uranium mining debris
G. Rufyikiri, J. Wannijn, L. Wang, Y. Thiry

Phosphate addition to soil derived from uranium mining debris may decrease U mobility and bioavailability to plant.

428 An exploration of the relationship between adsorption and bioavailability of pesticides in soil to earthworm
Y.L. Yu, X.M. Wu, S.N. Li, H. Fang, H.Y. Zhan, J.Q. Yu

Bioavailability of pesticides in soil to earthworm is governed by adsorption characteristics.

434 Field assessment of oxytetracycline exposure to the freshwater macrophytes *Egeria densa* Planch. and *Ceratophyllum demersum* L.
M.L. Hanson, C.W. Knapp, D.W. Graham

Oxytetracycline did not pose a risk for two freshwater macrophytes.

443 Responses of antioxidant systems and LPO level to benzo(*a*)pyrene and benzo(*k*)fluoranthene in the haemolymph of the scallop *Chlamys ferrari*
L.Q. Pan, J. Ren, J. Liu

Biomarkers for PAHs were identified in the scallop Chlamys ferrari.

452 Response of the Mediterranean sponge *Chondrosia reniformis* Nardo to copper pollution
E. Cebrian, G. Agell, R. Martí, M.J. Uriz

Contrasting effects of copper pollution on the Atlanto-Mediterranean sponge Chondrosia reniformis.

459 Degradation of polycyclic aromatic hydrocarbons (PAHs) in an aged coal tar contaminated soil under in-vessel composting conditions
B. Antizar-Ladislao, J. Lopez-Real, A.J. Beck

Maximum degradation of PAHs in an aged coal tar contaminated soil can be achieved using optimal operational conditions during composting.

469 Sequential extraction combined with isotope analysis as a tool for the investigation of lead mobilisation in soils: Application to organic-rich soils in an upland catchment in Scotland
J.R. Bacon, J.G. Farmer, S.M. Dunn, M.C. Graham, S.I. Vinogradoff

Sequential extraction combined with isotope analysis was used as a tool to assess mobilisation of lead into streams.

482 Effects of oxygen on the release and distribution of phosphorus in the sediments under the light condition
X. Jiang, X. Jin, Y. Yao, L. Li, F. Wu

Uptake of dissolved inorganic P affected P release and distribution.

488 Factors influencing arsenic accumulation by *Pteris vittata*: A comparative field study at two sites
C.Y. Wei, X. Sun, C. Wang, W.Y. Wang

Nutrient elements influenced the arsenic-accumulation capacity of Pteris vittata in the field.

494 **Linking organic pollutant (bio)availability with geosorbent properties and biomimetic methodology: A review of geosorbent characterisation and (bio)availability prediction**
G.A.C. Ehlers, A.P. Loibner

Hydrophobic organic pollutant retention in geosorbent matrices, soil and sediment characteristics, biomimetic techniques is reviewed.

513 **Mercury in fish from two Nicaraguan lakes: A recommendation for increased monitoring of fish for international commerce**
J.K. McCrary, M. Castro, K.R. McKaye

Fish commonly exported into the international food supply may be contaminated with mercury.

519 **Effects of polycyclic aromatic hydrocarbons on germination and subsequent growth of grasses and legumes in freshly contaminated soil and soil with aged PAHs residues**
M.J. Smith, T.H. Flowers, H.J. Duncan, J. Alder

Germination tests alone do not predict growth of plants on PAH contaminated soil.

526 **Effects of added PAHs and precipitated humic acid coatings on phenanthrene sorption to environmental Black carbon**
G. Cornelissen, Ö. Gustafsson

Sorption of phenanthrene to Black carbon is attenuated by other PAHs but not by humic acid coatings.

532 **Low levels of persistent organic pollutants (POPs) in New Zealand eels reflect isolation from atmospheric sources**
N. Holmqvist, P. Stenroth, O. Berglund, P. Nyström, K. Olsson, D. Jellyman, A.R. McIntosh, P. Larsson

Low levels of PCBs found in New Zealand eels reflect isolation from atmospheric sources while DDTs levels are determined by land use.

539 **Efficient retrieval of vegetation leaf area index and canopy clumping factor from satellite data to support pollutant deposition assessments**
N. Nikolov, K. Zeller

The paper presents a physics-based algorithm for retrieval of vegetation LAI and canopy-clumping factor from satellite data to assist research of pollutant deposition and trace-gas exchange. The method is employed to derive a monthly LAI dataset for the conterminous USA and verified at a continental scale.

550 **Export of nutrients from golf courses on the Precambrian Shield**
J.G. Winter, P.J. Dillon

Golf courses increase nutrient loads in receiving streams.

555 **The status of pesticide pollution in surface waters (rivers and lakes) of Greece. Part I. Review on occurrence and levels**
I.K. Konstantinou, D.G. Hela, T.A. Albanis

Information on pesticide pollution of surface waters in Greece is reviewed.

Short communication

571 **Regulating manure application discharges from concentrated animal feeding operations in the United States**
T.J. Centner, T.A. Feitshans

New rules applying to the application of manure by large concentrated animal feeding operations should reduce water contamination.